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3509 Kc.	7023 Kc.	7134 Kc.	10 Mc.
3511 Kc.	7031 Kc.	7145 Kc.	10.511 Mc.
3512 Kc.	7032 Kc.	7156 Kc.	10.524 Mc.
3515 Kc.	7032.6 Kc.	7163 Kc.	10.530 Mc.
3516 Kc.	7048 Kc.	7174 Kc.	10.536 Mc.
3528 Kc.	7052 Kc.	7179 Kc.	10.544 Mc.
3532 Kc.	7062 Kc.	7202.3 Kc.	10.546 Mc.
3539.3 Kc.	7063 Kc.	8000 Kc.	10.563 Mc.
3634 Kc.	7064 Kc.	8017.5 Kc.	11 Mc.
3640 Kc.	7068 Kc.	8027 Kc.	12.803 Mc.
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All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

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VK6WI: Sundays, 0830 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

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EDITORIAL



THE AMATEUR EXPERIMENTER

The oft repeated statement that the costly instruments demanded by the advances made in the electronic art in recent years have sounded the death knell of the Amateur Experimenter is based on a false concept.

Admittedly only highly skilled personnel working in well equipped laboratories will be able to carry research to the ultimate degree of accuracy in quantitative measurement and evaluation. However, the Amateur, with his great enthusiasm and pioneering spirit, can, and will, still be out in front searching for new worlds to conquer.

The Amateur has always been judged by his ability to improvise under adverse conditions. Armed with the humble multimeter, a sim-

ple grid dip oscillator, and a good frequency meter, the Amateur has a wide field from which to choose. By invoking the aid of the Disposal Stores and the junk box, and using the ingenuity for which the Amateur is renowned, such items as c.r.o.s. and v.t.v.s. are not beyond reach.

In a nut shell, although plumbing may represent a real hazard in the u.h.f. field, it is not insurmountable and in any case there are many facets of u.h.f., v.h.f., antenna and modulation techniques still unexplored.

The true Amateur Experimenter will never reach the end of the road, but will forever leave behind a trail of achievement.

FEDERAL EXECUTIVE.

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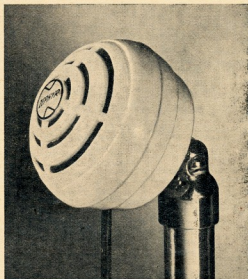
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THE COMPLETE AMATEUR

PART TWO

BY TOM ATHEY,* VK4UT, A.I.R.E. (Aust.)

SECTION TWO

Frequency Meter

Portion of the Handbook on Regulations reads: "For this purpose he must, unless exempted by the Department from doing so, maintain in good order, apparatus of a type approved by the Department, the minimum requirement being, for all frequency bands below 50 Mc., a heterodyne frequency meter, preferably of the crystal calibrator type..." (Section 99 Part 5).

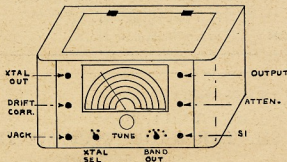
As you can see it is very necessary that the above regulation must be carried out by all intending Amateurs. Since commencing this series the writer has received a letter from a VK3 asking to include in the articles a simple heterodyne frequency meter suitable for Aussie conditions, as so many of those edited in the Handbooks are made with parts, in the main, unobtainable in Australia. So OM, here is a contribution on these lines. The author does not favour the combined monitor and will cover that subject in the final article on monitoring.

However, as it is the intention of the author to devote his energies to the latter type, here is his suggestion for the Complete Amateur Frequency Meter.

The Amateur requires a frequency meter that will cover the bands we are permitted to work on. Hence there is no need to cover bands outside of these limitations. Those required are as under:

Metre Band	Mc.	Mc.	
80 ..	3.45 to 4		Fundamental
40 ..	6.9 ..	8	2nd Har.
20 & 15	13.8 ..	16	4th Har.
11 & 10	27.6 ..	32	8th Har.
6 ..	48.3 ..	56	14th Har.
2 ..	138.0 ..	160	40th Har.

Thus it will be seen that if we can get a heterodyne oscillator to cover all these bands, we have arrived at the condition required by the Australian Amateur. In the v.f.o. portion of the schematic shown, you will see that the use of any tapped coils has been avoided as this leads to confusion in selecting the right band.



This meter is a fairly simple type to make up and not beyond the capability of the average Amateur or newcomer. It's needless for me to say just how much importance one must attach to the meter. As quoted in portion of the Regulations in the opening of this article, the type required is fairly obvious. Therefore this one will fulfill all of these requirements.

There are two types that fulfill the requirements: The beat frequency type and the v.f.o. type with a calibrating crystal. It is not intended to go into the former type as it was fully and very capably covered in an issue of "A.R." some month ago. Briefly it consisted of two oscillators, one crystal controlled, beating against one another, and by utilising the principle of the superhet (sum and difference) and using the sum to produce a frequency that coincides with the band edge. Then by varying the oscillator (not crystal controlled), producing a variation in the frequency. This type is quite stable, but has its limitations, mainly from the identification of the correct side of the beat.

Very often you may measure a frequency, only to find that you have forgotten to shift from the right tap, or that you have misread the meter because you have been reading it as the bandspread when you should have been reading it without it. So the tapping or bandspread has been left out.

The inductance, together with the capacity, will cover the fundamental frequency allowing about 180 degrees of dial movement. This is, of course, if your combination of L and C follow the specified amounts. But as I have stressed before, there is no need for you to stick strictly to the specifications. The main feature is that you build it as economically as you can without losing the main feature—stability—and to get this you must use the very best parts in your oscillator.

You cannot beat good parts and clean secure, well-soldered joints. Good layout is also a feature in a frequency meter. A rough sketch of a layout that will meet the requirements of this meter has been made and it should satisfy the most fastidious.

Obtain an instrument case advertised in the monthly journals or in "A.R."

One about 12" x 8" x 6" with a front panel and a lift-up lid will do fine. As this is a job that you will often be using and mounting on the bench or operating table, a good appearance will make for a workmanlike finish to the rig. As in the v.f.o., a good dial (one without backlash) is essential and it must be capable of being calibrated, too.

HETERODYNE OSCILLATOR AND HARMONIC AMPLIFIER

The oscillator valve is an 6SK7 and uses a conventional Hartley oscillator circuit. The inductance is wound on a good solid piece of insulating tubing to the specifications given. If you have a porcelain former that will meet the bill you can use it as this type of former is supreme. However a piece of tube made from plastic or such like material will do just as well. Wind the former with the specified wire size, making sure that the wire is tight and that the turns do not slip. (A good way to ensure this is to heat the wire first to a temperature that you can handle, then wind the coil.) The wire's natural contraction when cold will usually take up the slack and make a very firm job. One point; if you use plastic, watch out the wire is not too hot and cut or melt into the former.

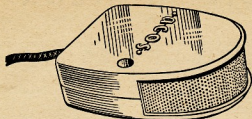
Mount the main tuning gang in the centre of the panel. Do not rely on the suspension on the panel to hold the gang, but mount it on the sub-chassis in such a way that there is not any movement in its suspension. Now mount the coil directly beneath the gang, again making sure that the coil is rigid. So much for the inductance and capacitance.

In the schematic you will see that the frequency is controlled by the use of four condensers. These are mounted in shunt across the coil. Two are brought out to the panel and the other two are fixed in such a way that they are mounted firmly across the gang used for tuning the meter. Thus it is possible to set the range and then have one main control and one to act as a drift corrector. C2 is the tuning gang, C1 the variable padder, C3 the fixed padder, and C4 the drift corrector.

The valve being used as an e.c.o. requires that the screen voltage be kept to a very stable voltage. This is accomplished by regulating the supply to the screen with a VR tube. The voltage to the harmonic amplifier is also held at this level by the same means.

Looking at the schematic, the output is taken from the plate of the 6SK7, using an r.f.c. as a broadly resonant coil. It is capacity coupled to the grid of the harmonic amplifier valve—a 6AC7. This valve, having a very high mu, is a natural for this position. It readily acts as a multiplier or a generator of harmonics. The output of the 6AC7 is fed in turn to a series of switched coils, again broadly resonant to the band each one is wound for. Output is capacity coupled to a level control and in turn brought out to a terminal mounted on the front panel. A short piece of wire, about 8 gauge, will act as an aerial or you can feed the output direct to the

* Ex-Instructor Q'land Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.



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job by a link. Wiring the rest of the frequency meter is obvious. You need about 250 volts h.t. and the screens need from 75 to 100 volts, depending on the type of VR tube you are using. Either a VR75 or a VR105 will do; the VR75 for preference. This has been not too hard so far, has it? And the cost is quite reasonable.

THE CRYSTAL CALIBRATOR

Again turning to the schematic, you will see that we use another 6SK7 valve as the crystal oscillator. Either one or two crystals can be used here. If you decide to use only one, use the 100 Kc. crystal as this will enable you to mark off the 100 Kc. intervals. But if you use two, get one to mark the band edge

is capacity coupled to the first grid of the 6SL7, the first half of the twin triode acting as a crystal frequency amplifier.

Provision is made to accommodate output from the crystal oscillator, so that the crystal frequency can be used to identify the band-edge on your receiver. A small condenser (C12) is used as a means to couple the crystal output into the harmonic amplifier so that the two frequencies (i.e. the heterodyne meter and the crystal oscillator) can be beaten together, producing the intervals as required. Control of the crystal oscillator is made by the toggle switch in the screen h.t. lead.

The second half of the twin triode is used as a detector amplifier and it en-

your dial on the 3.4 to 4.0 Mc. fundamental band. Most of the larger broadcasting stations are very accurate as their frequency control (within 10 cycles of their given frequency), so you can get your meter down to a good degree of accuracy.

For a further check, use the known frequencies that WWV works on. This way it will afford you a check on the higher order of frequencies on your meter. Log your dial in pencil first and then re-check before you ink in. Finally use Indian ink to mark the frequencies. Then check the crystal marker spots. Having done this and found them to fall where they should, mark them in with Red Indian ink. This way you can keep the crystal marker points separate and clear from those of the actual frequency meter.

I think that this covers the job fairly well, chaps. The meter just described to you should fill the bill for an Amateur's shack job and should not cost too much. All parts are readily available on the Australian market and many of them can be substituted with other brands of gear also marketed in Australia.

ERRATA IN SECTION 1

In the schematic on page 5 of the September issue, J1 should be shown as between junction of the 0.01 μ F. condenser and the combination junction point of R24, the 0.5 megohm pot., and the 100 pF. feedback condenser.

In the text (third column of same page), a 6SN7 is quoted as being used for the b.f.o. and "guess meter, but the circuit shows a 6C4. The schematic is correct as the author changed the circuit but omitted to amend the text. As the "guess meter" is in a bridge circuit of the plate supply of the 6N8, only the b.f.o. requires a tube, hence the use of the 6C4.

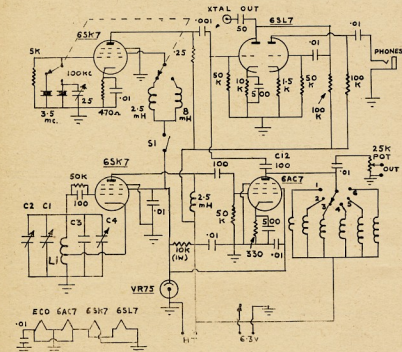
AUTHOR'S REPLY RE SCREEN MODULATION

The author of "A New Modulator for the Type 3," E. A. Barbier, VK5MD, has some further remarks with regard to screen modulation. Following are his comments.

Just a further point in relation to "A New Modulator for the Type 3." Mr. J. A. Gazard's remarks as to the theory of screen modulation of course cannot be questioned. In practice, however, the no load voltage of 250 volts from the Type 3 power supply drops very considerably with the addition of the modulator described, and the voltage measured at the screen pin of the 6L6 power amplifier tube is well below 200 volts.

Type 3 owners, therefore, need have no fears that the screen of the 6L6 will be overloaded, or that the tube will burn up. Any fears they have can be quietened by measuring the voltage of the screen of the 6L6, with the modulator running.

In adapting this modulator to other types of transmitters, it would be, of course, necessary to keep Mr. Gazard's remarks in mind.



Schematic of Frequency Meter.

C1—75 pF. trimmer

C2—100 pF. bandpass

C3—220 pF. band padder

C4—25 pF. drift corrector

L1—18 turns 18 gauge B. & S. enamel, 1 inch former, length $1\frac{1}{2}$ inches. Cathode tap, 5 turns from ground.

Output Coils—

1—2.5 mH. R.F.C.

2—2.5 mH. R.F.C.

3—2.5 mH. R.F.C.

4—24 turns, 18 gauge, close wound, $\frac{1}{4}$ inch diameter.

5—11 turns, 18 gauge, $\frac{1}{4}$ inch diameter, close wound.

6—2 turns, 18 S.W.G., $\frac{1}{4}$ inch diameter, $\frac{1}{2}$ inch long.

(3.5 Mc.) and then the other (100 Kc.) can be used to identify the 100 Kc. intervals from the band edge. A small variable condenser is tied across the 100 Kc. crystal so that the exact 100 Kc. interval can be brought into line with a signal from a known frequency standard (such as WWV).

The oscillator is an e.c.o., similar in its operation to the heterodyne oscillator. The controlled screen voltage is picked up from the regulated supply and fed to the screen through the broadly resonant coil (r.f.c.) in the screen circuit. Using two crystals it will be necessary to use two coils here, one for each frequency. The output from the plate

ables a pair of phones to be plugged in and so permit identification of the crystal beats.

The rest is straight forward. Just wire your meter up as per the schematic.

CALIBRATION

The best way to calibrate your frequency meter is to borrow a sub-standard frequency meter from one of your Amateur pals. Then by a system of comparison of known frequencies, you can identify the band and mark your dial accordingly. If this is impossible, tune in a known frequency or a harmonic from one of the broadcasting stations and use this as a gauge to log

W.I.A. Federal President's Report for 1953-54

It is my privilege to submit for your information a report covering the activities of the Federal Executive during the past year.

May, 1953: Officers of the Federal Executive placed the case of the Australian Amateur before the Royal Commission on Television, and this was included in the Commission's report to the Government insofar as the "interference problem" was concerned.

Representations to the P.M.G. Department resulted in an agreement to issue a Technician License (subsequently termed the **Limited Amateur Operator's Certificate of Proficiency** by the Department), and clarification was reached with regard to the scope of "Duplex Operation."

June, 1953: Our gracious Queen Elizabeth II. was crowned during the month of June and it was gratifying to learn that honors were bestowed upon a number of members of the Institute. Congratulatory messages were delivered to the Queen on this great day in her life, these being routed by means of Amateur stations.

Preliminary proposals were submitted to Federal Council for the holding of a Region III. Congress during the Olympic Games to be held in Melbourne during 1956.

July, 1953: In pursuance of Television privileges for Amateurs, further representations were made to Mr. Anthony, M.H.R., Postmaster-General to have provisions for this included in the Television Act or any other legislation for the introduction of Television services. This will be pursued further when the Government has determined its policy with regard to Television in Australia.

Representations were also made to the P.M.G. Department and the Department of External Affairs with regard to the growing interference in the frequency channels specifically allocated to Australian Amateurs under the terms of the Atlantic City Convention 1947. Success was gained concerning the operation of Radio Pakistan in the 7 Mc. band and Federal Executive is sure that the gradual but certain eradication of many other stations can be gained also if the reports coming in can give accurate information concerning the identity of the interfering stations.

August, 1953: On behalf of the Federal Council, Federal Executive successfully tendered for the right to publish the **Australian Radio Amateur Call Book** for the next five years. The first issue of this publication is already being sold throughout the Commonwealth and in New Zealand, and is one for which the Federal Council and the Executive can be justly proud.

September: After prolonged negotiations with the P.M.G. Department, amendments to Regulations 32 in the Handbook have been made permitting the use of other languages besides English to be used in conducting QSOs. At the same time, a reduction in the age limit was gained for applicants desiring to sit for the A.O.C.P.; where an applicant once had to be 18 years or more, this has now been reduced to 16 years.

The Executive forwarded an appropriately bound and embossed Official Log Book to each Division for use by the official W.I.A. stations. It is hoped that a current record of the activity of these stations and the experiments carried

out will ultimately prove a valuable historical record of the Divisional station.

October, 1953: Federal Secretary, Max Hull, VK3ZS, gave six months notice of his desire to vacate the post. As at this

WIRELESS INSTITUTE OF AUSTRALIA—FEDERAL EXECUTIVE Income and Expenditure Account for Twelve Months ended 28th February, 1954 No. 1 Account

EXPENDITURE		INCOME	
Badges	£26 14 8	Per Capita Payments	£175 3 4
Stationery	31 1 5	Sales of Badges and Log Sheets	170 4 11
Log Sheets	59 10 8		
Certificates	9 13 10		
Trophy Expenses	16 4 2		
Audit and Accounting	12 12 0		
Typing and Duplicating	9 3 0		
Honorarium	10 10 0		
Bank Charges	1 13 5		
Petty Cash and Postage	35 5 11		
Depreciation—			
Receiver	£3 0 0		
Trophies	2 3 3		
Typewriter	8 10 0		
Filing Cabinet	3 10 0		
	17 3 3		
Surplus transferred to Accumulated Funds	55 15 11		
	£345 8 3		£345 8 3

Statement of Receipts and Payments for Year ended 28th February, 1954 No. 2 Account

RECEIPTS		PAYMENTS	
Refunds of Expenses by Divisions	£248 13 3	1953 Convention—	
Surplus of Payments over Receipts transferred to Accumulated Funds	18 16 0	Delegates Expenses	£174 12 0
		Dinners	68 2 3
		Minutes	10 10 0
		Stationery	6 0 0
		Petty Cash	7 0 0
		Bank Charges	1 5 0
	£267 9 3		£267 9 3

Balance Sheet as at 28th February, 1954

Current Liabilities—		Current Assets—	
Creditors	£12 12 0	Petty Cash	£0 16 9
Accumulated Funds—		Bank No. 1	67 13 5
Balance 1/3/53 £499 11 11		Bank No. 2	3 11 3
Add surplus from No. 1 Account	55 15 11	Debtors	155 2 5
	£555 7 10	Badges	43 0 0
Less loss from No. 2 Account	18 16 0	Stationery, Certificates, and Log Sheets	108 0 0
	536 11 10	Fixed Assets (at cost less depreciation)—	
		Eddystone Model "640" Receiver	24 0 0
		Trophy, Remembrance Day	14 0 0
		Trophy, Ross Hull Memorial	37 0 0
		Filing Cabinet	28 0 0
		Typewriter	68 0 0
	£549 3 10		£549 3 10

I have examined the books and vouchers of the Wireless Institute of Australia (Federal Executive) and prepared the above Balance Sheet and attached statements. In my opinion, the Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Federal Executive's affairs, and that the Income and Expenditure Account and Statement of Receipts and Payments are properly drawn up to exhibit a true and correct view of the results for the twelve months ended 28th February, 1954, according to the best of my knowledge and the explanations given to me, and as shown by the books.

Res. W. ELLIS, Dip. Com. F.C.A. (Aust.),
Chartered Accountant (Australia).

1st April, 1954.

date, Max intends to stay on with the Executive and carry out other duties.

November, 1953: Federal Executive, with the concurrence of the Headquarters Divisional Council, appointed members to form a Contest Advisory Panel to assist in unravelling some of the complexities existing the present Contest rules.

December, 1953: Draft certificates and colour washes were produced and preparation made for the printing of the WA-VK-CA Award for issuance to overseas Amateurs who can qualify.

Agreement was reached to amend the Federal Constitution to provide for two additional members with voting powers on the Executive. This should do much to lessen the load of the Federal Secretary and generally expedite the work of the Executive. Upon receipt of Federal Council's vote, the machinery will be set in motion to bring this change about.

January, 1954: The Ross Hull V.H.F. Memorial Contest Trophy was completed except for engraving, including a sturdy transit case to ship it to the winners from time to time. Arrangements have been made for the past winners to hold the trophy for a period of two or three months. The trophy is considered to be very handsome and one that every Amateur would be proud to hold. Credit is due to all those who had a hand in its design and production.

Investigations were commenced with relation to the standard of A.O.C.P. examinations compared to the standard of Institute training courses, with a view to keeping our courses up with modern trends.

February, 1954: Federal QSL Officer, Ray Jones, was honored by the Victorian Division with a Life Honorary Membership. This recognition of the long service to the Institute by a faithful and hardworking Federal Officer will meet with the approval of all who have had the pleasure of associating with Ray. Whilst on the subject of QSLs, it is interesting to note that in spite of the heavy slump in QSL cards being handled, due to bad conditions on the international bands, the members of the Institute have continued to hold a satisfactory level and the general interest in Amateur Radio has "weathered" the depression remarkably well. With probably continued better conditions from now, greater interest and activity on the bands should be noted.

March, 1954: A comprehensive document covering "The Duties and Powers of the Federal Councillor," prepared by the Federal Secretary by direction of the Federal Council was completed ready for publication. This document should do much to clarify the position of the Federal Councillor and remove some of the causes of misunderstandings in the past.

April, 1954: Generally speaking, interest throughout the year has been maintained in all branches of Institute activity. Members of the Emergency Networks have been called into action on several occasions, but the tardiness of the Divisions in implementing the Civil Defence Emergency Networks Plan which Federal Council directed the Executive to produce, is most discouraging. It is hoped that the incoming fiscal year will bring some much-needed activity in this field.

The Official Institute Traffic Network has once again proved its worth, much time being saved during the year by messages handled through this medium.

As my last year of office draws to a close, I am pleased to report that most of the directives of the 1953 Convention have been completed. In some cases minor propositions have been left for completion during the 1954-55 period for financial reasons.

The Federal Executive's financial position is quite satisfactory in spite of the heavy programme undertaken. As a result of not having to prepare for a Federal Convention this year, members of the Executive have been able to devote more time to preparation of new material for the forthcoming year and much constructive work has already been completed.

This report would not be complete without reference to the fine co-operative efforts of all Federal Officers, Federal Councillors, members of the Magazine Committee and our Advertising Representative, Miss Touraine.

Without all the hard work of these unselfish members, our Institute could not hope to continue in its healthy financial state. In all Divisions, also, due credit goes to all those active members under the jurisdiction of their Councils.

I relinquish office with regret and assure the Council that my services will always be available to the Institute. I thank you one and all for the happy years spent with you.

GEORGE GLOVER, VK3AG, Fed. President.

FEDERAL QSL MANAGER'S REPORT

This Bureau again functioned smoothly during the year and no major difficulties were encountered. Associations with Divisional Bureaux were extremely pleasant and active. A dispute about domestic distribution of cards in one Division was ironed out to the satisfaction of all concerned. Relations with the Federal Executive were also harmonious and co-operative.

Traffic through the Bureau again declined. The falling away in traffic over the past six years closely follows the overall deterioration in conditions on the main International bands during the period, and cards handled show a fall since the same period last year. This closely reflects the descent into the trough of the solar cycle. Cards handled for the year totalled 21,380; a comparison over the past six years being rather interesting: 1947 73,000, 1948 65,000, 1949 37,000, 1950 46,000, 1951 38,000, 1952 25,000, 1953 21,000.

Bureau costs were again kept down to the low figure of £6/2, representing an average cost of 6.9 pence per 100 cards handled.

Only one change in the personnel of the Divisional Bureaux was reported. Miss Claire O'Brien, taking over the outward duties for the VK4 Division.

Cards from the U.S.S.R. satellite countries continue to come to hand regularly, but nothing was received from the U.S.S.R. itself.

Preliminary action on 28 Certificate applications was taken during the year. Items of interest to Divisional Managers and members generally were regularly promulgated in the Federal QSL. None in "Amateur Radio" was published.

R. E. JONES, Federal QSL Manager.

FEDERAL CONTEST MANGER'S REPORT

In August, 1953, an urgent request was made to me to take over Federal Contest matters as the Divisional Council had been unable to form a Contest Committee.

The rules of the VK-ZL Contest had already been drafted and despatched by the Council although unfortunately they were not ready for publication in any overseas magazines.

A survey was made of the rules of the balance of the Contests on the Federal Calendar. VK-ZL Contest: The rules of this Contest appear to be reasonable and should not require any alteration for many years.

E.D. Contest: The rules of this Contest do require some revision, particularly in the scoring. At present the larger Divisions have no chance of winning the trophy.

National Field Day: A slight variation in the method of scoring was tried in an endeavour to encourage lower power operation and possibly bring more operators into the field. The inverse multiplier had the effect of equalising the scores of the various competitors, but did not seem to bring in any additional entries as was hoped. The contest is not well supported and due to the disposition of the awards, practically every competitor receives a certificate.

Ross Hull Contest: This is the only Federal V.H.F. Contest and is always well supported by those who operate on the V.H.F. bands. The scoring now appears to be fairly equitable, but as conditions on the 50 Mc. band are very variable, only time will tell.

Owing to lack of assistance I had to check all logs and issue certificates myself. This slowed up the issue of the certificates, but all with the exception of four for the VK-ZL Contest have now been despatched. Unfortunately one or two errors were made when the final results were compiled, but all have been rectified.—V. H. Wilson, Fed. Contest Manager.

(The Federal Executive have expressed the thanks of all members to Mr. Wilson for his work in this regard.)

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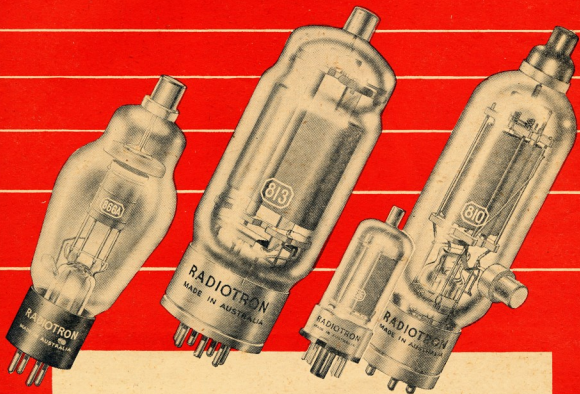
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NEW SOUTH WALES

The lecture given at the August meeting of the V.H.F. Group by Mr. Ron Coppett on Jet Engines was most interesting and brought those present up to date on the operation of gas turbine engines. Using various components of a Goblin engine to illustrate points of particular interest, also a demonstration of the latest type of ignition using a high intensity spark was most impressive and the hope is expressed that it is never fitted to motor cars.

The August points-per-mile contest result was as follows: 20A at Mt. Tomah, 1st; 2HL, Man-grove Mt., 2nd; and as there were only two stations operating in the field with Bob 20A making the greatest number of contacts, Bob was declared the winner without a tally of the number of points being made.

Spring Field Day, 3rd October

Details of the Spring Field Day on Sunday, 3rd October are: The day's activities will commence at 10 a.m. when each station will contact their neighbouring stations, passing on the information as to the extent the chain has been formed, endeavouring to have the chain complete by 10.30 a.m. On receipt of the information that the chain is complete, the message has been made with VK3, a message of greeting will be originated by a Sydney station to the VK2 Division. The VK2 Division, from the President of the VK2 Division. The message will be passed both through the northern and southern circuits to 2AJQ at Coolamon and 2BY at the Granulates near Tumut, or to other stations who have contact with VK3. After passing the message on, each station will report back to the station he received the message from and each will continue to relay information on the progress made, back through the chain to Sydney.

In this way the message should be passed into VK3 by 11.30 a.m. when it is hoped information on the message reaching its destination will be passed back in a similar manner.

Stations operating in the chain will be 2PN at the Granulates near Tumut, 2ZAA at Kendall, 2AJO Coolamon, 2TA at Young, 2VH Forbes, 2YR Mt. Conobolas, 2ANF Mt. York, 2LG Mt. Tomah, 2AGY Newcastle, 2ATO Burrington Tops, 2RU Gosford, 2OA Mt. Gibraltar, 2HL Goulburn area, 2HE Mt. Koscusko, 2AA and 2YM Mt. Franklin, 2UG Canberra, 2BQ Tumut, with other stations not listed joining in to form further links. After the message has been cleared by all stations, endeavours will be made to establish long distance contacts over paths where previous contacts have not been made.

The offer of the use of the lecture room and facilities in the Radio and Electrical Section of Petersham Technical College, Crystal St., Petersham, for the V.H.F. Group's meetings has been accepted and future meetings of the Group will take place at that address. For this excellent opportunity, we owe our thanks to Max 2OT who arranged the necessary approval from the authorities concerned.

2HL is building a xial controlled converter on the rear of Command rx for portable/mobile work and reports good progress. 2HE is busily completing a portable tx for the Spring Field Day trip to Mt. Koscusko. 2ADA and 2YM are doing likewise for their trip to Mt. Franklin. 2AA is considering very deeply the construction of a turnstile antenna. 2HO is getting the bugs out of his f.m. 3QZ has projects under way which we will tell you about later, maybe Bob will put it in an article for "A.R." Sad news comes from 2XX where Ted's

new 50 ft. tower, lying alongside the shack ready for erection, was badly damaged by a tree which came down in the wrong direction when being removed to make way for the tower; must have been the home of the goblins. Ted, Steve 2YH and Cec Cronan had a portable mobile on the 20th of the month of New South Wales, visiting many shacks and operating 2 mx mobile, giving many country stations their first contact with a 2 mx mobile. In regards to 50 Mc., Jack 2JH delays the 2 mx Sunday evening broadcast and would welcome reports on reception, so what about keeping a watch on the band and give Jack a call.—2AFQ.

VICTORIA

The August meeting of the V.H.F. Group proved to be one of the best attended meetings yet and the full seating accommodation was taxed by members wishing to hear the lecture given by Jack Davies, JE2ED, on mobile 'phs gear and they were certainly not disappointed for when Jack really warmed up to the lecture, hints came so thick and fast that the pencil and paper were in great evidence in the audience, trying to keep up with his recommendations. Jack demonstrated and lectured on not only mobile 'phs but also on the various precision devices peculiar to v.h.f. mobile. Of great interest was the use of a single crystal to crystal lock the converter stages in the oscillator and using the same crystal and its harmonic to lock the converter oscillator. This, of course, has only a limited frequency range, but the idea could be well utilised in the normal double conversion superhet. rx.

The gear demonstrated had double conversion rx, modulator and tx, and the chassis was 8 x 10 x 4 in. and by the use of miniaturised components of sections were ideally placed for servicing. The meeting closed with a discussion on the first field day for the season, and it was proposed that it take place on Sunday, 3rd October, and this date will coincide with the request from VK2APQ for the nationwide field day on that date.

A letter was also received from 3AFO asking for 2 mx activity on the following Sunday, 10th October, when the Central Western Zone Convention is to be held at Reed's Lookout in the Grampians. Utmost participation will be arranged for each Sunday, but it is unfortunate that these dates clash with other W.I.A. contests, namely, the VK-ZL one. Surely we should not have to double back other activities when the Institute arranged annual contests are on. The VK-ZL is arranged with the I.A.R.U. for the first and second week-ends in October, and has been on that date in all the post-war years.

It is pleasing to find that already six out of the seven metropolitan Z calls have been heard on the band. The most enthusiastic being 2ZAA who is on the band almost every evening. It is pleasing to see such excellent enthusiasm.

A slight rearrangement was used on the month's fox hunt when the cars started in mass formation and the hunt was run without a control station. The proved, however, that the control station is very advantageous to the cars who have lost contact with the fox and an endeavour will be made in future hunts to provide a strong home station so that lost cars can get into a position to contact him and thus obtain information from him as to the direction of the fox. The successful hunt on this occasion were Norm Dench and 3ZAA, followed by 3ADU, who found the fox during his stationary period. The fox was not seen but it was a dead head in running down the fox car,

3LN, whilst he was mobile; they were quickly followed by the 3YS-3AB combination. On the third run, 3YS and 3ADU were again successful in locating the fox, whilst he was stationary at the conclusion of the run. The post mortem was held at the home of Laurie 3ALY, and after waiting for 3ZAA and Norm Dench, who were late, the evening was most enjoyable and the thanks of the Group go to Laurie for his excellent hosting of the fox hunt. In all, 18 of the gang turned up at the final location. These hunts will continue on the second Wednesday evening of every month, so if you are at home that evening, get on the band and try and assist mobiles with some directions.

We would be pleased to get some information from you on the progress of the fox hunt on chaps? The Western District is still a very active section on the 2 mx band, where 3ATN, 3ANF, 3AKS, 3RS, 3JTG, 3DI and 3ACE keep activity alive and some excellent beam antennae are in the course of erection. With the advent of the fox hunts during the winter time, it appears that the field days this year should be very well supported by the Group and as activity is so well spread in the country throughout Victoria, it is anticipated that some excellent DX will eventuate during this summer season.—3LN.

SOUTH AUSTRALIA

With the possibility of the U.K. having h.c. stations in the v.h.f. bands, some interesting circuits are appearing in "Wireless World" incorporating new ideas. One of the problems of similar converter stages is the reducing action of the oscillator to very small values. This involves using a r.f. stage with very good inter-stage shielding—usually a pentode and its high noise due to partition effects—a grounded grid triode with low amplification, or a double triode in a cascade neutralised circuit. The triode is to be preferred and a double triode type ECC83 has been incorporated by Mullard in a most interesting arrangement. The first half is used as a cathode input, grounded grid, plate tuned r.f. amplifier; the second half as a combined mixer and oscillator. With this arrangement both o.c. radiation and noise are reduced by feeding the signal from the r.f. stage to a null point on the o.c. coil. In addition to having high slope and input resistance, the ECC83 has an amplification factor of 57. The full circuit is in the July issue of "Wireless World."

On the home front, 2 mx has taken an upward turn and interstate contacts with 2ATN at Birchop on Monday, 23rd August in the evening were made by Bill 6HD, using c.w.; Col 5SO heard 3ATN, but copy was difficult with a very weak signal; Col used a single 6/6 in mixer-o.c. circuit with a 3 el. beam. Bill also heard another VK3 on freq. of approx. 144.1 Mc., but signal was too weak to identify the call.

Hughie 5BC was heard on phone R4-5 for three hours on the same evening—working Bill? Looks as though I'll have to rob the canaries of their 5 el. perch, borrow back my converter from Clem, finish it and have a listen myself. I'll have to dust off the xtal ball and make some predictions when everybody is going to be on! Tom 6TL still with us and wondering if 2 mx signals can be heard through the haze of dust and Bie 5MA quiescent. 5XU no hear, see or speak!

Such discussion about the Ross Hull Contest by the Contest Committee and some new ideas on operation and scoring were brought forward. Any ideas chaps? If so, send them along to the Federal Council, P.O. Box 1234, G.P.O., Adelaide. Don't grizzle about the rules, etc., unless you have made a contribution—news is the only thing the committee meets on the last Tuesday each month.—5XU.

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WESTERN AUSTRALIA

144 Mc.: During August, the first contacts with the limited boys were chalked up. Coc 6ZAZ put in an appearance on 144 Mc. with a mod. osc.—pair of 718ds and worked a number of the locals. Tests with 6BS at Mammaring (103 miles) proved negative, but the stabilised gear is progressing apace and should be in operation shortly. 6ZAA has been having a run of "outs"—what with a dud 12AT7 bought for new, and coax open internally—things have not been smooth going for Wal. He has put an 87 signal from his m.e.p.s. 718ds/815 up to 6HK, so great things are expected from the new xtal multiplier chain under construction. Quite a number of AR301 rx's went off recently from surplus sales, so there may well be more listeners on 144 Mc. than one thinks. Both 6ZAA and 6ZAZ are using these at present. A newcomer to 144 Mc., but not to Amateur Radio, was 6AW testing a modified TR1143. Denis has been having a good time working the locals, and plans are to hand to improve on the 3 cl. beam it present in use. 6FC made a comeback recently on 2 mx. Frank threw up a dipole and roared in with a very fine signal.

6AG's Sunday night appearances have been curtailed of late with holiday excursions to Rottnest Island. 6HK and 6GB very silent lately. 6JT once again on with the net at 2000 hours on Sundays after his trip to Cocos Island. The path from 6BS to Perth on 144 Mc. seems to be open about 80 per cent. of the time with 58.9 sigs as tests by 6BO and 6HK would indicate. Basil plans to stake up an 8012 before long. 50 Mc.: The tempo here should be improving from now on with the advent of summer and ionospheric DX. One item of interest concerns the possibility of an Oceania/Africa contact on 50 Mc. ZS1SW in a QSO with 6GU on 14 Mc. phone stated that he could guarantee at least five active operators in ZS who would be interested in the possibilities of a QSO VK-ZS. ZS1SW himself has a stacked array atop a 110 ft. tower, so look out! More details as to frequencies, gear, etc., may be forthcoming later.

That also reminds me of the promise of FK8AB to be on this year, besides the rumour of VS activity. Looks like this is going to be our last complete DX season on 50-54 Mc. chaps so best we make the most of it. The proposed change to 56-60 Mc. on 1/1/50 should provide some interest though as it will of course take place right in the middle of the DX season.

6GU is still planning to put the 807s on 50 Mc. 6CC still to be heard occasionally, but

will be very busy in the next couple of months with exams. Ian 6UC put in a surprise appearance one evening using 6LW's portable rig, which is about the nearest we've come to hearing Wal again. For those with short memories, 6LW was one of the mainstays of 50 Mc. activity in this State after the war, and chalked up the first interstate 50 Mc. QSO from Perth in December, 1948. My, six years ago! 6SJ is to re-build using 357s in the final and modulator. 6LM heard on 20 mx. what about putting up the 50 Mc. beam again Lionel now that you're installed in the new QTH? 6FM has nearly finished the beam, 4 over 4 on 50 Mc. and 16 el. phased array on 144 Mc. Ron has also been churning out some information on temperature inversions versus propagation conditions on 144 Mc., which may develop into something worthwhile from the prediction point of view.

AMATEUR CALL SIGNS

FOR MONTH OF AUGUST, 1954

ADDITIONS

- VK—
New South Wales
21B—G. L. Rhodes, 6 Bourke St., Turrumurra.
2AAU—J. Wakefield, Hargrave St., Armidale.
2ACS—E. C. Savage, 32 The Circle, Griffith.
2AIV—W. H. Kennedy, Portliffe, Broad St., Eugowra.
2AQT—H. C. Daynes, 8 Waratah St., O'Connor.
2AXD—E. A. Druitt, 43 Canal St., Griffith.
Victoria
3AHT—W. B. Magnusson, 359 Williamstown Rd., Yarraville.
3ZAS—C. R. Stilwell, 32 Hopper St., Bendigo.
Queensland
4EB—P. Bobileff, 45 Danste St., Greenlapses, Brisbane.
4HN—W. E. Evans, C/o. Railways Dept., Stuart, Townsville.
4PH—P. W. Hay, 1 New St., Toowoomba.
4RZ—J. M. Atkinson, Parker St., Labrador, South Port.
4TR—C. R. West, 196 Goldsmith St., Mackay.
4UT—T. D. Athey, 41 Mountford Rd., New Farm, South Australia.
5FF—R. F. Farmer, Portliffe, C/o. Mr. C. W. Farmer, 7 Kirkcaldy Rd., Grange.
5OD—Port Pirie Amateur Radio Society, C/o. 51 Alexander St., Port Pirie.

- Western Australia
6AP—R.A.A.F. Pearce, Amateur Radio Club, R.A.A.F. Station, Pearce, W.A.
Tasmania
7BI—B. Seetrine, C/o. Station TSD, Scottsdale, Terrieries
1DJ—D. H. Johns, Macquarie Island.
1TF—T. F. Firmstone, Macquarie Island.

ALTERATIONS

- VK—
New South Wales
2JX—"Kuranda," Blackland Road, Wentworth Falls.
2LI—6 Milford Street, Randwick.
2MF—Markham Street, South Armidale.
2RL—541 Darling Street, Rozelle.
2SI—9 Bridge Street, Port Macquarie.
2TY—9 Melbee Street, Rutherford, 3N.
2VC—9 Macfarlane Parade, Sylvania.
2AAB—15 Robinson Street, Kogarah East.
2AGJ—Station: Wickham's Hill, Griffith; Postal: P.O. Box 631, Griffith.
2AIQ—Cr. Orient and Adelaide Streets, Padstow.
2AOB—26 Sherlock Avenue, Panama.
2AQS—Police Station, Binnaway, 6W.
2ARI—9 Abbott Street, Cammeray.
2AWX—Station: Technical College, Tighes Hill; Postal: Secretary, 174 Alexander St., Wallend, Newcastle.
Victoria
3KN—4 St. Leonards Court, South Yarra, S.E.I.
3KV—251 Barkly Street, St. Kilda, S.2.
3NR—"Talsman," Kallista.
3TV—22 Heath Avenue, Oakleigh.
3UR—60 View Street, Bendigo.
3ACD—Boundary and Jetty Roads, Dromana.
3AFW—79 Spencer Street, Essendon.
3AKN—Portliffe, 4 St. Leonards Court, South Yarra, S.E.I.
3ANL—Majorca Road, Maryborough.
Queensland
4CB—14 Unity Street, Maryborough.
4DG—Portliffe, C/o. Post Office, Quilpie.
4FE—Thursday Island.
4LN—Nash Street, Gympie.
South Australia
5MK—8 Welwyn Road, Manningsham.
Western Australia
6GA—41 Balfour Street, Kalgoorlie.
Tasmania
7SD—87 Bass Street, Warrane.

DELETIONS

- New South Wales: VKs 2AUC (now VK4EB), 2ZAD (now VK2AXD).
Victoria: VKs 3BI (now VK7BI), 3GT, 3AFD.

This section cut out....Sourcing

Crystals For The Critical



BRIGHT STAR CRYSTALS are manufactured to pass the enacting conditions required by the P.M.G. regulations for Amateur and Commercial use. All Crystals are chemically etched to insure that the frequency, once set, is permanent.

Normally, Commercial Crystals are manufactured to have an accuracy of $\pm 0.02\%$ over the temperature range 0°C. to $+60^{\circ}\text{C.}$ Crystals to an accuracy of $\pm 0.01\%$ and $\pm 0.005\%$ can also be supplied.

PRICES: Amateur from £2/12/6; Commercial prices vary according to accuracy required and will be quoted on request.

SUPPLIED TO LEADING RADIO MANUFACTURERS THROUGHOUT AUSTRALIA.

BRIGHT STAR CRYSTALS may be obtained from the following Interstate firms: Messrs. A. E. Harrold, 123 Charlotte St., Brisbane; Gerard & Goodman Ltd., 192-196 Rundle St., Adelaide; A. G. Healing Ltd., 151 Pirie St., Adelaide; Atkins (W.A.) Ltd., 394 Hay St., Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins St., Hobart; Collins Radio, 409 Lonsdale St., Melbourne; Prices Radio, 5-6 Angel Place, Sydney.

DC11 TYPE CRYSTAL HOLDERS WANTED. ANY QUANTITY.

Screw-type Neutralising Condens. (National type), suits all triode tubes, polystyrene insulation, 19/6 ea.

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Prompt delivery on all Country and Interstate Orders. Satisfaction Guaranteed.

This section cut out....Sourcing

FEDERAL, QSL, AND DIVISIONAL NOTES

FEDERAL

V.H.F.-U.H.F. DISTANCE RECORDS

Now that Limited A.O.C.P. licensees are operating on the v.h.f.-u.h.f. bands, interest in performance, distance records, etc., will be greatly increased. It has been proposed that a paragraph should be printed in each issue of "Amateur Radio" giving a summary of the record performance on each band. Federal Executive requests those v.h.f.-u.h.f. enthusiasts who have noteworthy contacts to forward details to their Divisional Headquarters so that a complete survey can be made.

When forwarding information, the following details should be included: (a) Date, Time of Contact, (b) Station Calls (c) Approximate Air-Line Distance. This will greatly facilitate in making the final summary.

SLOW MORSE ON 144 Mc.

Following representations to the Amateur Administration, permission has been granted to the Wireless Institute to provide Slow Morse transmissions on 144 Mc. This should be of great benefit to those members who first now operating on this and higher frequencies.

T.V.I. BOOKS

Federal Executive has received information that a further supply of T.V.I. Books by Remington Rand are due to arrive in November. Members of the Institute desirous of having this informative booklet should reserve by writing to the Federal Secretary, enclosing 7d. in stamps.

FEDERAL QSL BUREAU

RAY JONES, VKIRJ, MANAGER

The present address of R. E. Beljon, who is approximately 1927 was OA2RB, with address as 92 Laurence Street, Lithgow, N.S.W., is urgently required by this Bureau. Any reader knowing his address, please advise or ask him to contact the Federal QSL Manager.

Ray Datz, VR3A (ex-VR3D), has 6,000 QSLs to date, and is looking forward to receiving them about mid October. Ray will settle down to the steady job of filling and despatching them by the end of the month.

VR2BZ landed at Tokelau Island and was on the air as VR2BZ/ZM6 for a period during mid September.

The correct address of the QSL Bureau for DM is Postbox 698, Halle (Saale), Germany.

The Syrian Radio Amateurs, whose QSL Bureau is in Damascus, are anxious to be known that an International Fair took place in Damascus during September. A 500w. station was erected in the Fair grounds and using the call sign YK1DF worked every day from 1800-2400 Cairo time on 14 Mc. band. The Syrian Radio Amateurs' Managing Board will award an assortment of Oriental gifts to a foreign Amateur who worked this station. The award will be decided by lottery. The information comes from Lieut. Col. Tarek Kelyan, VK1AJ.

The Mexican National Amateur Society (I.M.R.E.I.) held a successful Convention in May last. The total attendance at Acapulco was 400. Of this number, 116 were active Amateurs and 284 were listening total. There were 244 Amateurs. Among the number were 55 foreign call signs. The well known and popular Vice-President, Elmer E. Jones, VK2VJ, presided at the Convention, did not run for reelection. Dr. Manuel Medina, XE1N, was unanimously re-elected President.

A son of Slim Herbert, ZL1NR, will be taking part in the next amateur cycle race to be staged in Sydney during November.

Cards through the Federal Bureau during August reached an all-time low of 1,061. Compare this with the peak month during 1947 when cards numbered 8,000. Is no DX being worked, or are stations tiring with QSLs, or is the "crazy" being out of a job soon as winter does not look up.

Writer recently was pleased and honored to receive a card from the Adrien Phibbs, G of Wallis Island, has sent out this own station. Adrien will soon be returning to France.

Consistent with the many VK stations are not replying to his cards and are even hanging on to the reply coupons he enclosed. QSLs sent, he has only received those of VK2GQ and VK2AHH in return. Fair go chaps.

The International DX Club World Wide Contest is being held as follows: Phone—02008, 22nd October, to 02003 23th October. C.W.—02003, 30th October, to 02003 1st November.

SILENT KEY

It is with deep regret that we record the passing of:—

Ex-VK3PP—Capt. Arthur E. T. Payne. Died 8/9/54.

Ray VK9RH, of Norfolk Island, was rushed to Sydney by plane around end of August for urgent appendix removal. Ray is making a fair recovery.

Eagle eyed Treb, of BERS195, has spotted a discrepancy in the published dates for the VK-ZL contest entries. In "Break In" the closing date for entries is given as 31st December, while "A.R." says 21st January. Guess a correction will appear shortly.

VR3CY, Dan Allen, Beach Road, Suva, who works for Cable and Wireless, is an ex-member of Number 11 and 20 R.A.A.F. Flying Boat Squadrons, and poked around the island bases during 1941-42.

Eddie Hickford, ZK2AC, O.I.C. Radio, and Postmaster, Niue Island, who replaced ZK2AA, operates 7 Mc. c.w. with 100w., but is not DX minded. He has no running sleds with his friends in ZL, and that is about his only reason for frequenting the Amateur band, although he QSLs all DX contacts made.

NEW SOUTH WALES

The monthly general meeting of the Wireless Institute, N.S.W. Division, was held at Science House, Gloucester St., Sydney, on Friday, 27th August. The audience was a capacity one, in fact, no accommodation was available to be obtained from adjoining rooms. The President, ZYC, opened the meeting at 8 p.m. and welcomed all visitors, among whom was the A.P.C. representative, Sydney, ZY1, and ZNO; the visitors being welcomed in the customary manner. The minutes were read by the Secretary, and the minutes were adopted. In view of the great amount of increased power, the President opened discussion on this matter and although the time allotted was perforce short in duration, several speakers gave their views on the subject, and it was felt that members would have some ideas to consider before the question comes up for discussion again.

The lecture at this meeting was given by our old friend, Angus Robertson, Z1Q, who in his inimitable style delivered a very interesting discourse on "The Fundamental Theory of Antennae." Angus dealt with the basic theory of antennae, phasing of antennae and an interesting discussion on the effect of the antenna on the ground. Angus explained in detail with the aid of vector diagrams, and following that answered a number of interesting questions put by members. This was followed by yet another concise lecture by the same gentleman on the subject of "Inter-modulation Distortion in Amplifiers." This dealing with the same effect as previously. These lectures were recorded by Hec ZACI and will no doubt be made available in the future to the country centres as previously. The inevitable happened, more questions and finally the meeting was closed with little time for discussion and ragging, but in any case present agreed that a very enjoyable and instructive night had been spent.

WESTERN SUBURBS

Despite the fact that there is a lot of activity in this area, we still get no reports on the local doings, so have to recourse to the scandal gathering ability of the XYL and self, but do appeal to some of the chaps to let us have some copy by the first of the month as it is difficult to all listen on all bands at once and in any case we do like a little activity on our own gear, more especially when the 14 Mc. band does occasionally operate. Our gleanings reveal that 2AXZ has found the 20 mc band once again; Ken has been busy on the A.O.C.P. class, so can be forgiven. 2AAB still gets down and in any case mx, both on phone and c.w. 2APT doing good things with the beam on top of Kelly's Hill, is really line of sight to W land and with the formidable power lines, can get a reasonable signal into G land. 2AEK and 2NJ are tape

recorder happy still, but the merest trace of real DX will, I feel sure, transfer their attention again.

2H has his antenna much higher and has a nice signal these days, also appears to have increased the modulation a little. 2ZF, our local exponent of s.s.b.c., also doing well and can be heard at the h.f. end of the band and is looking for himself using that medium; Noel is looking for more converts to the system and will put anyone on the track who is sufficiently interested to contact him. 2OQ, the man who came back again, is getting organised properly, yes the beam is in the air and although only 15 feet is doing a fine job. 2FM is still busy polishing the car, appears to be a little browned off but will return. 2G has to see to 2OQ and returned home with the beam virus in his blood, another going up soon. A further chap who is putting a beam up is Tom 2HX, but he is quite a busy boy and it will be in the air soon. 2JU was very busy in the R.D. Contest and John answered a very nice total of points. 2AGU is never heard these days, but has G boys are asking of you Harry, so you should do something about it. 2ABO gets on occasionally, but like ACE gets on the v.h.f. bands more frequently.

NORTH COAST AND TARELANDS

Zone officer 2AHH sends the lone report from this large slice of N.S.W. and in doing so complains that for some months he has been unable to hear many stations in the zone and requests that more reports be forthcoming from other areas. Noel has been working much DX of late on 14 Mc. in the afternoon and has worked into Europe and South America on 14 Mc. In a letter from 2XO, Noel learns that Crieff is still off colour, sorry to hear that, and it appears that he may be leaving the service leave and take a health trip to ZL. We all wish you well Crieff and hope to see you at the next "Brumby" in ZL. 2XO has been repainted in Royal colours. Don't forget chaps the next North Coast Convention will be held at Urunga at Easter 1955, so make your arrangements to be there. 2XO is the only one pleased to make your plans for you.

Bill 2AFY is prospecting for uranium these days. Rod 2YC and family were in England for a holiday this month. Rod 2ACU has been in Sydney, in fact he was at the meeting early, but the commitments had to leave promptly. 2NI has been hella-jaying recently at Port Macquarie, and 2PA has been working quite a deal of DX from that location. Len 2AWS is another on the P.M. band, he has a getting on with a T-12; he and 2FA have identical tx's and set-ups, the idea being that in the event of another emergency there are available a spare tx, modulator and generator. This is a commendable scheme and is one we feel could well be copied in other areas to the benefit of all in times of emergency. Ken 2AFB is expected to be heard soon with a new tx.

HUNTER BRANCH

The August meeting of the Hunter Branch was held at the Tighes Hill College on 13/8/54. The meeting was one of the best attended of the year, 28 members, and associates, were present to see four films and hear a lecture by 2AXM on converters and their construction. The four films ran for nearly two hours and

MY XYL SAYS

WHY is it that some Amateurs go to a terrific trouble on the air to emphasise the superlative efficiency of their rig and modulator, only to finish up by saying that they are using a carbon microphone, "which sounds pretty good."

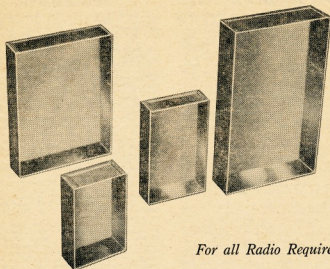
My XYL says that it is equivalent to buying a 1954 model car and fitting it with solid tyres and kidding oneself that the roads are smooth.

Of course my XYL is ignorant of the finer points of Amateur Radio and can be forgiven, if not silenced!

OIGLE.

Amateur Radio October 1954

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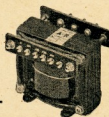
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POWER AND FILAMENT TRANSFORMERS

Type No.	Primary Voltages	H.T. Volts Aside	H.T. mA.	Filaments
1356-3H	200 - 220 - 230 - 240	400	150	5v.-3A.; 2.5v.-5A.; 6.3v.-4A.
1371-8	200 - 220 - 230 - 240	500 - 600 - 750 - 850 - 1000	300	
1400-19	200 - 220 - 230 - 240	565 - 500 - 425	250	2 x 6.3v.-3A.; 2 x 2.5v.-3A.; 5v.-3A.
1643-23	200 - 230 - 240	—	—	6.3v. TAP 5v.-2A. (500v. insul.)
1525-24	200 - 230 - 240	—	—	2.5v.-10A. (1000v. insul.)
1305-22	200 - 220 - 230 - 240	—	—	2.5v.-10A. (3000v. insul.)

FILTER CHOKES—Swinging Chokes Marked *

Type No.	Inductance—Hys.		Current mA.	Approx. D.C. Res.	Maximum D.C. Working Voltage
	Maximum	Full Rate D.C.			
973-9	30	20	80	370	500
967-1A	35	20	150	200	1000
956-1A	30	20	200	160	1000
1011-1A	30	15	250	160	1000
*983-1A	25	20/5	30/300	90	1000
986-1A	15	10	300	60	1000

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Page 19

The idea of token QSL cards to be forwarded to those black-listed calls, for noting and return has met with approval, but I don't suppose we would make much difference to some of the "sure QSL QM" types.

The C. C. provided the usual thoroughly enjoyable dog-fight with this Division emerging in what is, we hope, a favorable position. Jim and I were the only two to get VK5, whose top scorers put up a really formidable total. My word, if they do carry the day, SP5 will have something to write about. Congratulations at the order of the day to EFL, 6RU, 6DX, 6MK and 6TK for making the top scorers. 6FL put up a fine effort after blowing up two times, and finished with a score of 561 points. 6MK's score of 530 approx. was all the more meritorious by virtue of the fact that all of his contacts were by phone and all but about ten contacts on 14 Mc.

6RU did not have luck all his way, as about midday on the Saturday night to the final only transformer went up in smoke. A small r.c. type power tranny was hastily pressed into service and Jim rushed back to the fray only to be greeted by a cloud of smoke and fumes from a minor h.t. supply. A new electrolytic and transformer culled from the house b.c. set soon cooled the transformer. No more to the present-day Amateur is not resourceful?

6GU lost a rectifier and during the Contest had considerable trouble in converting the enthusiastic W that he couldn't be in it! 6NF had trouble from VIP only a few yards distant. Dave and I had a new 6500 v. tube to re-build to rack and panel style. We might have seen something of that single sideband when the re-build was complete. 6ES had a surprisingly good signal on 14 Mc. over the 30 miles from Safety Bay. 6WT bashing the on 7 Mc. and looking for the elusive South American DX. 6WU was in the contest for 30 shortly. 6HC heard on 7 Mc. c.w. also with a bit of a chirp. Some people claim this makes the signal easier to identify. Leel

6WZ popped up on 7 Mc. one evening and disappeared just as quickly. Believe 6FB has a turret mounted on the all band rig. 6WZ was down. 6EC comes up on 3.5 Mc. for Sunday morning checks with 6AG/6WL. Eric has been having trouble with his camera tube in operation, but the results should be worth seeing when the gear is complete. 6WJ has joined the ranks of the "dry" gals by working a 6500 v. tube on 14 Mc. phone and that's it for this month.

TASMANIA

From 17th to 21st of August saw great activity in the Amateur field at Queenstown for we had a Scientific and Industrial Exhibition. Several "amateur" big "Brack" TBers heard a whisper that the local Technical-High School were having an exhibition this year instead of the usual Fair. This was true. It usually grew into a noise that crossed the State to the ears of a Government Member-Mon. Tom, who promptly ordered, blackguarded, and otherwise enticed industrial people to exhibit an exhibit. I understand that at one stage a University professor was prepared to transport the entire Uni. Instead of the one department as desired!

However, in due course, all arrangements were made, two large halls had allotted spaces, and we found our position on the plan of the Capitol Hall marked "Amateur Wireless Station." The trouble was then, how to get "Brack" TBers, Chas 7CP and Len TJS. It was decided to use "Brack's" tx, Chas' rx and Len's would be available for a night only demonstration. As the big date drew near, "Brack," being newly initiated into Amateur radio and very enthusiastic, called in ardently that when the last joint was being soldered on the rig he did not even notice the "Mercury" thermogalvanometer. Both his and Len's were to run the long wire, which consisted of a piece of p.v.c. across the hall to a single strand running to a convenient chimney. Installed in the wire turns were a few 100 ohm resistors, wire, not the chimney. The net gross and actual result was nil. "Brack" promptly jumped to the wire and said "I'll be there." Chas gave some learned suggestions and Len had some silent doubts that the "dry" joint would be tight. After various experiments, it was discovered by the aid of the infallible lead pencil that the sky wire was unnecessary. To the surprise of the net, R.F. began to flow, the absorption meter moved up steadily, and we were on!

The first night was not so good. Puzzled questions from bewildered spectators regarding "the peculiar crackling noises" were told that the model trains on the other side of the hall was the cause of the trouble. It was then suggested that if we could frequency modulate the a.m. noise with pulse time, we might be able to attract the better of the net.

The following nights were more successful and we thank our friends at Warrnambool for

teeing up those first contacts, and all the other stations that were contacted for the night; and suitable remarks for the benefit of the listeners, also any other station that called us but got no reply; we apologise but could not book them all. As "Brack" remarks, he has been talking from 7 p.m. to 9.30 p.m. and was dry. He received scant sympathy and was out again the next night as he needed sleep.

Well, the Exhibition reached its close on the Saturday night and everybody was tired but happy, and said that "Brack" had really talked well. Thanks to all the listeners, and now "VK7TWI Portable" returns to Hobart.

NORTH WESTERN ZONE

Once again the R.D. Contest is over and a hard battle it was with many good long-distance signals coming through. I believe that a record number of Tasmanian operators were active for the occasion. On the 27th August, at an annual meeting of the North West Zone was held at the home of TAB, at Devonport, where there was good attendance. It was unanimously agreed that existing officers were to continue for another year and the constitution was amended to allow for another Vice-President. 7JO was elected to the office in order to serve the Devonport members. A motion was passed to press for more liaison with the mainland. I noticed quite a stack of arrays there was to those in attendance on behalf of all present.

A sumptuous supper was served by the ladies and a social evening followed. At the close of the evening, 7EJ made a most interesting and useful presentation on behalf of all present.

NORTHERN ZONE

Associate Henry Solomon has been seen around town nursing an injured hand after an affair with a nocturnal prawler—so pants beware! Passing Henry's QTH one afternoon, I noticed quite a stack of arrays there was to those in attendance on behalf of all present. 7BQ the other evening and over a low fire made skeds for nightly 144 Mc. contacts between Hobart and Sydney. 7ALZ has been active much lately, but one sees him occasionally under the bonnet of his car. 7LZ has been gardening but is still active. 7KX has been active, and spills off his motor cycle, has packed up his new tx No. 1000 Mark IV, and sent it to Hobart ready for use. 7FJ also of Kelso, as active as ever on the DX hands, takes an evening off now and then and whilst exerting some of the time on the wharf recently, suddenly descended waterwards.

7GM has just about finished his mammoth rebuild with a 14 tube double conversion rx. 7RB has been anxiously watching the Tamor floods, with high boats and water. 7BX has been busy splashing point around the r.c. tx building as well as moving his Amateur tx upstairs at his QTH, complete with lounge next to the rack! 7RK is keeping his fat in, waiting for DX conditions to open. 7RL has taken on shop keeping to help pay the pawn bill for that outside transformer. 35Q is over here for a few weeks on a job of work.

CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

CONTESTS

15 Whitlock Street,
Kalgoorlie, W.A.

Editor "A.R." Dear Sir,

The matter of Contests I feel could, and I hope will, bring along a lot of views and comments. I have been an active Amateur for a number of years, perhaps so long that a lot of fellows will say, "You have had it, mate, and it's about time you passed time to the younger chaps." The latter part I believe, but how can we old timers hand over if the younger gals don't get the contesting bug? It's the interest, I wonder if the younger fellows can see the futility of these 24-hour endurance tests? "Contests" to 12 hours, or even 6 hours a year, but on that day how lonely the XVI, VI or, if neither can be? What b.c.i. could be caused by insufficient transmission and, above all else, how the maroon could be caused. It's not human to expect any sane person to stay awake for 24 hours. Why not limit our Australian Contests to 12 hours, or even 6 hours, perhaps six hours on and six hours off? Further, can anyone tell me what is gained by Contests? do I hope each Division will take this matter up and take a vote on Contest time generally, and then pass their views on to the Federal Executive.

—BILL BARBER, VK6DX.

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1/- per line, minimum 3/-.

AR7 Receiver, complete, power supply and speaker. 7-3.5 Mc. Command Transmitters complete with in-built Heising modulator, speech amplifier, pi coupler, in dual rack, AC power supply. Sell together or separately. What offers? H. Hansen, 36 Jamieson St., Bulemba, Qld.

FOR SALE: Hallicrafters SX38 Rx, set spare tubes and auto transformer. What offer? 65 Waratah St., Sth. Oakleigh, Vic. or Ring LX 1037.

FOR SALE: Hallicrafters SX24 Rx with spare tubes, book. Freq. Meter, Bendix model LM-7, serial no. and call. book coincide. Type 3 Mark II. with spares, modulator, and book. Converter, R.A.A.F. type 26, 50-65 Mc. with tubes. Gelofo v.f.o. with tubes and cabinet. FS6 power supply minus bias rectifier. TA12D converted for 7, 14, 21, 28 Mc., class AB1 modulator with Trimax mod. transformer, 256G2, 256G2, power supply, antenna and meter. Complete with relay supply in rack. Beautifully finished equipment. Reply to "Tender," Box 1234K, G.P.O., Adelaide, before 31st October.

FOR SALE: Practically new 14 valve Receiver, Aegis KC4 tuning unit covering all bands from 10 mx to broadcast, noise limiter, BFO, AVC, S meter, used 455 Kc. crystal filter. All in commercially made metal cabinet. Separate power supply, Trimax chokes and transformer. No speaker. Will accept any reasonable offer. Apply H. Jackson, Box 91, Whyalla, S.A.

FOR SALE: RME45 Communications Receiver complete with speaker, superb condition, also 99'er incl. coils 10, 20, 40 metres. £100 cash. Write Demasius, 39 Brookside Ave., Trarnera, S.A.

FOR SALE: Set three high power P.A. Coils and panel controlled Swinging Link, poly. bases, will tune 40, 20, 15 and 10 mx with 100 x 100 Condensers. £2; cubic foot of useful junk, £1; 50 back copies "A.R." 10/-; 12 pre-war copies "QST," 10/-; Roth Jones, 25 Panoramic Road, North Balwyn, Melb.

SELL: Marconi 1155 Receiver, converted AC, £19. E. Blackmore, Majoura Road, Moryborough, Vic.

WANTED: BC312, 342, 348 or similar Type 3 Transceiver and Class C Wave-meter. Box 35, Tennant Creek, N.T.

WANTED: Instruction Manual, L.P. Power Pack and carrying frame to suit No. 11 Transceiver. For any of these contacts, write W. Babb, 20 Ovens St., Yarraville, Vic. (Phone: LX 1007).

WANTED: To buy or borrow for photostat. Radio Handbook 13th edition, also circuit or Handbook on BC221J Freq. Meter; "QST" for Oct., 1949. R. D. Smith, 30 Moree St., Gordon.

WANTED TO BUY: 958 type Valves. J. Wright, Box 3, Whittlesea, Vic.

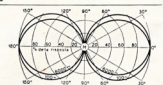
WANTED: 3API or 906 in good condition. N. Stilwell, P.O. 104, Bendigo, Vic.



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Left: Cat. 416 Double Ribbon Microphone.

Above: Polar diagram response curve of Cat. 416.

Below: Characteristic response graph of Cat. 416.



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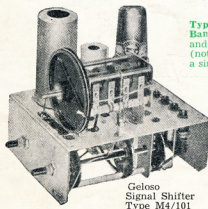
Where true musical reproduction is required, the Geloso Double Ribbon Microphone provides the answer at amazingly low cost.

Normally, Ribbon Microphones are very large and heavy physically, but these disadvantages have been overcome by Geloso through the use of twin ribbons in the magnetic field. Finish and general workmanship of the 416 series is really excellent.

Output impedance is normally 250 ohms, but this can be raised to grid impedance (150,000 ohms) if desired by the use of a line transformer (Cat. TL250GR).

The characteristic response of the 416 Microphone is 30—13,000 cycles (see graph at left). The polar diagram response curve is shown at the left.

Catalogue 416.—Double Ribbon Microphone without base, but with switch, four yards of screened low-loss cable, and TL250GR Line Transformer £15/15/-



Geloso Signal Shifter Type M4/101

GELOSO SIGNAL SHIFTER AND CALIBRATED DIAL

Type M4/101: A very stable five-band three-tube V.F.O. unit, fully wired and tested. **Bands:** 3.5—4, 7—7.45, 14—14.4, 21—21.6, 28—29.8 Megacycles. **Dial:** Fully calibrated and band spread over 180 degrees. **Tubes:** 6J5 oscillator, 6AU6 isolator, 6V6 output (not supplied). **Output:** Tuned on each band, giving at least 3.5 Ma. grid current to a single 807 on all bands. **Power Supplies** (not supplied with unit): 400v. at 32-54 Ma.

Price (including Sales Tax): £10/4/9.

- Instant change of frequency on any band by coil switching.
- Controllable output over entire tuning range.
- Single control full band spread on each band.
- Capacitive output.
- Utmost frequency stability (± 200 c.p.s. on all bands).
- No plug-in coils required.
- Laboratory tested.
- Power supply required: 400 volts at 32-54 Ma.

DIAL FOR GELOSO V.F.O. UNIT



CRYSTAL MICROPHONES

Type M/400 Piezo-electric Microphone: A very attractive chrome plated "ball" type Microphone of small physical size, complete with three yards of twin shielded low-loss cable. Thoroughly shielded. **List Price:** £5/19/11.

Type T30: Hand Microphone in well proportioned brown bakelite case. Unit stands on table without need for any stand. Uses UN10 fully screened insert. Complete with 4 ft. of twin screened low-loss cable. **List Price:** £3/12/-.



CRYSTAL INSERTS

Type M409: Frequency response 40—7,000 cycles. Extremely robust and mechanically strong. Can withstand falls and knocks. No further casing is required as unit is complete as a Microphone of attractive appearance. **List Price:** 32/11.

Type M410: Same unit as M409, but with extra screening to exclude R.F. pick up. **List Price** 38/6.

Type UN10: A complete insert for incorporation in a cage in the manufacture of complete Microphones. Used in Microphones employed with Geloso Wire Recorders. **List Price:** 30/7.

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